

## PHASE DIFFERENCE MICROSCOPE

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## Abstract

**PROBLEM TO BE SOLVED:** To make it possible to effectively improve the resolving power without lowering the image contrast and accurately convert the phase distribution of a phase body, which is observed through the phase contrast microscope into a contrast.

**SOLUTION:** A slit 2 in a ring zone shape is provided at the pupil position of a lighting optical system 1 and a phase plate 4 which is conjugate to the slit 2 is arranged at the pupil position of an image formation optical system 3 conjugate to the pupil position of the lighting optical system 1 across a sample 5. While a phase plate 4 varies the phase difference quantity, a phase difference image is received by an electronic image pickup element 6 and a processor 8 performs arithmetic processing. Consequently, the obtained image information is image information obtained by extracting components which are proportional to the phase distribution of the observed body from an observation image and a contrast which is about  $\pi$  times as large as that of image information obtained by an ordinary phase contrast observation can be obtained.

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